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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,157	02/24/2004	Takahiro Hasegawa	1614.1388	8273

21171 7590 04/03/2007  
STAAS & HALSEY LLP  
SUITE 700  
1201 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER
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FLOURNOY, HORACE L

ART UNIT	PAPER NUMBER
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2189

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/784,157	HASEGAWA, TAKAHIRO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Horace L. Flournoy	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 11,12,14-16,18-20 and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11,12,14-16,18-20 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

This Office action has been issued in response to amendment filed December 12<sup>th</sup>, 2006. Claims 11-12, 14-16, 18-20 and 22 are pending. Applicant's arguments have been carefully and respectfully considered, but they are not entirely persuasive, as will be discussed in more detail below, even in light of the instant amendments. Accordingly, this action has been made NON-FINAL.

## REJECTIONS BASED ON PRIOR ART

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 11-13, 15-17, and 19-21** are rejected under 35 U.S.C. 102(e) as being anticipated by **Takeda et. al (U.S. Patent 7,076,620 hereafter referred to as Takeda)**.

With respect to **independent claims 11 and 19**,

*"A method of backing up data stored in a first virtual storage associated with a source physical storage [Takeda discloses this limitation, e.g. in column 19,*

**lines 25-27** [Takeda discloses “virtualization server 300” which maps physical to virtual addresses (see **column 20, lines 5-9**. Takeda further discloses in **column 20, lines 16-19**, “FIG. 16 shows a exemplary table 170 on address mapping between the host 100 and the disk array devices 200 used to implement the virtualized volumes provided in the seventh and eight embodiments.”] *into a backup medium, comprising: providing a second virtual storage associated with at least one physical storage equal to a size of actual data stored in the first virtual storage; [See FIG. 14, element 20 and all associated text within the specification] creating an address correspondence table between one or more block addresses of the actual data in the first virtual storage and sequential block addresses in the second virtual storage [See FIG. 14, element 300B]; [Takeda teaches the usage of two or more storage system which include a virtual storage which is associated with a physical storage in **column 18, lines 32-40** copying the actual data from the block addresses of the source physical storage to the sequential block addresses of the at least one physical storage in accordance with the created address correspondence tables; [Takeda discloses “virtualization server 300” can share its address mapping information with other (two or more) disk devices in **column 20, lines 5-9** and backing up all the actual data from the at least one physical storage to the backup medium without checking whether the block addresses of the at least one physical storage includes the actual data.” [See FIG. 14, elements 5105, 5500, and 5600. Takeda does not disclose not checking whether the block addresses of the at least one physical storage includes the actual data, therefore Takeda anticipates this limitation]*

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With respect to **independent claim 15**,

*"A virtual storage system for backing up data in a backup medium, [Takeda discloses this limitation, e.g. in column 19, lines 25-27] comprising: a first storage virtually storing data including actual data; a source physical storage physically storing data including actual data, wherein said source physical storage associated with the first virtual storage; [Takeda discloses "virtualization server 300" which maps physical to virtual addresses (see column 20, lines 5-9. Takeda further discloses in column 20, lines 16-19, "FIG. 16 shows a exemplary table 170 on address mapping between the host 100 and the disk array devices 200 used to implement the virtualized volumes provided in the seventh and eight embodiments."]* a second virtual storage [See FIG. 14, element 15B] virtually storing actual data copied from the first virtual storage, wherein said second virtual storage is associated with the first virtual storage, the second virtual storage equal to a size of actual data stored in the first virtual storage; [See FIG. 14, elements 3000 and 310] and at least one physical storage physically storing actual data copied from the source physical storage, [See FIG. 14, element 5600] wherein the physical storage is associated with the second virtual storage and the actual data is copied in accordance with an address correspondence table between one or more block addresses of the actual data in the first virtual storage and sequential block addresses in the second virtual storage, [Takeda teaches the usage of two or more storage system which include a virtual storage which is associated with a physical storage in column 18, lines 32-40. Takeda discloses "virtualization server 300" can share its address mapping information with

**other (two or more) disk devices in column 20, lines 5-9] wherein all the actual data is backed up from the physical storage to the backup medium without checking whether the block addresses of the at least one physical storage includes the actual data.” [See FIG. 14, elements 5105, 5500, and 5600. Takeda does not disclose *not* checking whether the block addresses of the at least one physical storage includes the actual data, therefore Takeda anticipates this limitation]**

With respect to **claims 12, 16, and 20,**

*“The method as claimed in claim 11, wherein the backing up all the actual data comprises recording the address correspondence tables and an address correspondence table between block addresses of the source physical storage and block addresses of the first virtual storage in the backup medium.” [See FIG. 14, element 5405. Takeda teaches a first and second address correspondence table (element 310) that is recorded into a target medium “JNL” through step 5405]*

With respect to **claims 14, 18, and 22,**

*“The method as claimed in claim 12, wherein the creating an address correspondence table comprises removing one or more unused block addresses of the source physical storage.” [See FIG. 14, element 5405. Takeda teaches a first and second address correspondence table (element 310) that is recorded into a target medium “JNL” through step 5405]*

## **ARGUMENTS CONCERNING PRIOR ART REJECTIONS**

### **1<sup>ST</sup> POINT OF ARGUMENT:**

With respect to the arguments on page 7 of the applicant's remarks, the examiner respectfully notes that although Takeda does not specifically disclose NOT checking whether each block is copied to the backup medium. Therefore Takeda still anticipates the applicant's claim language.

## **CONCLUSION**

### **Direction of Future Correspondences**

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Horace L. Flournoy whose telephone number is (571) 272-2705. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:30 PM (ET).

### **Important Note**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald G. Bragdon can be reached on (571) 272-4204. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 746-7239.

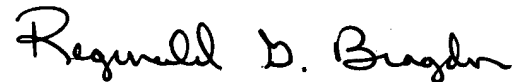
Information regarding the status of an Application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or PUBLIC PAIR. Status

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information for unpublished applications is available through Private Pair only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Reginald G. Bragdon

A handwritten signature in black ink that reads "Reginald G. Bragdon". The signature is written in a cursive, flowing style.

Supervisory Patent Examiner  
Technology Center 2100

HLF  
March 30<sup>th</sup>, 2007